



About Perennials

Bulletin 83
of the
Agricultural Extension Service, The Ohio State University

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About Perennials

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Gardens for all of this year,—next year,—and then forever!

“If once you love a garden,
That love will stay with you.
You can't forget a garden
Where you have planted seed;
When you go away from it,
However wide or far,
You have left your heart behind you
Where roots and tendrils are.”

To the garden lover, new flowers are new friends, or perhaps the children of old friends. Old friends are best, you say. Nevertheless, each year we must make new friends.

The amateur gardener starts by growing annual flowers and, perhaps, several Irises, Peonies, Phlox, or Hollyhocks. In some friend's garden he sees other showy and interesting sorts, and desires to widen his acquaintance among the perennials. In the plant catalogs he sees the illustrations and reads descriptions, but he often desires some true estimate of the various flowers before ordering. It is the author's desire to discuss in this bulletin some of the perennials which have been admired in the gardens at the Ohio State University, but which are not found in the majority of gardens. Most of the sorts are not new, but, because of unfamiliar names or lack of advertisement, they have not been widely distributed through town and countryside.

The splendid collection of perennials now growing at the Ohio State University has been made possible by the generous contributions of the Ohio Nurserymen's Association.

Perennials differ from annuals in that they will live for more than one year, some sorts remaining alive for an indefinite time. Many of them may be raised from seed, but some, being of a complex hybrid nature, are increased mainly by dividing the plants into several pieces. Give the plants good soil, cultivate often, spray when necessary, protect the tenderest sorts during the winter, and your garden will be a joy to you.

The true lover of flowers likes to care for them and instinctively knows what to do under ordinary circumstances, but in the case of each perennial there are some points in their culture which, if observed, lead to greater enjoyment because one is successful.

No partiality dare be shown in discussing the favorite perennials, so they are arranged as they bloom throughout the season.

April

The Month of Expectancy

Rockcress Early in April the sunny spots of our gardens may produce mats of white flowers if we plant Rockcress (*Arabis alpina*). This perennial will bloom for several weeks, then the plants will become rather spreading. Cut off the long, trailing branches and keep the plants compact throughout the summer if they are to bloom profusely the next year.



Fig. 1.—Landscape work around the country home should take advantage of the existing trees and utilize them as a background for shrubs and perennial borders. Flagged paths add to the homelike effect, and lead one on to new delights.

English Daisy

The first of the daisy-like flowers to bloom is the English Daisy (*Bellis perennis*). It blooms for a short season, but is most welcome. These old-fashioned flowers seem especially designed for a man's buttonhole. The plants grow only 5 or 6 inches tall, and the flowers, single or double, are white, carmine, or white with crimson-tipped petals.

The seed is sown each year in August because the plants do not persist through the severe winter.

May

The Month of Real Spring

April showers and sunshine soon bring us to May, when many more of our flowers start to open. Weeds must be kept out of the flower beds, and necessary cultivation maintained.

Goldentuft In yellow the Goldentuft (*Alyssum saxatile compactum*) is of the same use as the Rockcress. The tiny golden flowers fairly smother the gray-leaved plants with bloom. They are at home along the front of the garden.

Columbine The Columbines (*Aquilegia*) are now found in splendid variety, with long spurs and colors to please all tastes. Among the better ones, the American Columbine (*A. canadensis*) has flowers



Fig. 2.—The long spurred Columbines are preferred, because of their grace and delicacy.

like an ancient court jester's cap. The Colorado (*A. caerulea*), the Golden (*A. chrysantha*), the various dainty Mrs. Scott Elliot hybrids, and the species such as *A. vulgaris* and its variety *nivea*, the Munstead White, are robed like a princess and her court of fine ladies in dresses of light blue, pale yellow, and varying shades of pink, purple, and white.

Seed sown one year blooms the next. Columbines will tolerate a little shade. Poor sorts should always be removed from the garden, as

they will cross with the better varieties, whereas it is better to allow only the superior sorts to cross with each other.

Italian Bugloss Do you desire a deep, rich blue for early bloom? One of the most beautiful flowers of this hue is the Italian Bugloss (*Anchusa italica*). Its flowers are wondrous in color, although the plants may be somewhat weedy and persistent in our gardens.

Early Phlox May also ushers in several dainty Phlox, of which the commonest is *Phlox subulata*, variously colored rosy pink, lilac, or white, and known as Moss Phlox because the leaves are fine, pointed, and perhaps mosslike. Of this species *lilacina* is light lilac, and Vivid is a good clear pink. But of a less magenta color is *Phlox amoena*, a sort deserving of wider use as a border for flower beds. From the woods we may bring the Blue Phlox, also known as the Wild Sweet-william (*Phlox divaricata*). This variety has a lavender flower and is universally admired.

Iris Colors to please all tastes are obtainable in the various Bearded Irises. The American Iris Society asked its members to vote upon the varieties which they preferred. The voting was on a scale of 10, so that a variety receiving a rating of 10 would be of the highest quality, 7 fairly good, and below 5 not worthy of cultivation. A list of varieties chosen may be obtained from the Society.

Transplant Irises every three years shortly after blooming or up until the middle of September. Plant them on slight ridges to insure perfect drainage in winter. A destructive root rot makes it desirable to see that all rot is removed in transplanting; the roots should then be washed with corrosive sublimate solution and dusted with powdered sulfur. Badly infested plants should be dug, cleaned, and removed to new locations. Large borers are often found in the roots; if present, dig them out and kill them.

Recently we have found that, although the commonest Bearded Irises may be thrown about and not planted until they are almost dried up, yet it is well to treat the better sorts with consideration.

Following the Bearded Iris or blooming along with it at its latter season, comes the Siberian Iris. The flowers are deep blue, purple, or white, and differ from the former groups in possessing no beard on the falls. They may be planted in moist locations but not necessarily upon the margins of pools.

The latest to bloom among the Irises are the Japanese. These are the tallest and bear the largest flowers. They seem to dislike lime in the soil, and prefer an abundance of water when in bloom, but dry conditions during other seasons.

Too seldom do we see the Yellowflag Iris (*Iris pseudacorus*) which is one of the few varieties that may be planted directly in

the water. Its soft, yellow flowers and abundant fresh green foliage are admirable.

Primulas In this month, too, the Primroses or Cowslips bloom. Tidy and prim, the various sorts of *Primula acaulis*, *P. veris*, and *P. polyantha* line themselves up along the front borders of our gardens and congregate together in masses (see Fig. 3). If you wish to increase the stock of your Primroses, take them up



Fig. 3.—Masses of bright Primroses growing among the rocks at the base of trees. They bloom before the trees come into leaf.

at the end of summer and break up the plants into several pieces, setting them out as desired. They may also be grown from seed, which should be sown in the cool days of spring. Buy seed of specialists only, as these men have sorts which produce larger flowers of brighter colors.

Pinks We have not forgotten, nor have you, the various Pinks and Sweet-williams — old-fashioned, ever admired, and satisfactory (see Fig. 8). Our only advice is to get some of the newer sorts, for there are perhaps colors which you do not have at present.

Forget-
me-not

Do not forget to plant Forget-me-not (*Myosotis alpestris*) in your garden. This little flower will be appreciated by your friends more than any other flower which you may have. Forget-me-not will thrive in such spots as are a trifle too shaded for the majority of flowers, and will bloom from May until frost.

Lemon
Daylily

Seldom do we find a person who does not admire the Lemon Daylily (*Heimerocallis flava*), a soft, satisfying, yellow, lily-like flower (see Fig. 4). It thrives in rather trying situations, and grows and blooms without intruding upon our time for much attention.

Flax Do you
know
the beautiful
Perennial
Flax (*Linum perenne*)? From
day to day
its little blue
blossoms

open—fragile, dainty, appealing—and give us the same feeling as that inspired by an open rose, so well expressed by Omar Khayyam when he said:

Look to the blowing rose about us—"Lo,
Laughing," she says, "into the world I blow,
At once the silken tassel of my Purse
Tear, and its Treasure on the Garden throw."

It seems to require but a gentle breeze or a shower to shatter the petals. Do not think, however, that this is a difficult flower to grow, or that it is generally unsatisfactory, for such is not the case. It will continue to bloom all the summer and fall, and in winter its tiny leaves are evergreen.

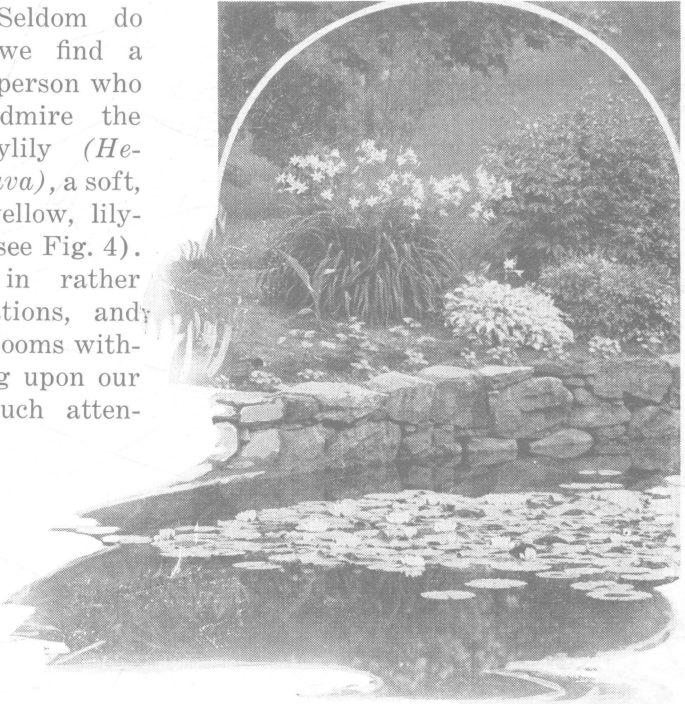


Fig. 4.—A beauty spot in the garden; here may be seen the Lemon Daylilies, variegated Plantainlilies, and Peonies on the bank; and in the water fragrant Waterlilies.

Speedwell The Rock Speedwell (*Veronica teucrium rupestris*) is another blue flower of unusual beauty, but unfortunately not seen often in private gardens of Ohio. It is a deeper blue than the Forget-me-not, and creeps over the soil, forming a dense mat of greenery transformed in late May to a sheet of blue.

Pink Daisy The Painted Lady (*Pyrethrum—Chrysanthemum coccineum*) is becoming better known each year. Everyone seems to admire the daisy form of bloom and, when the daisies are not only crimson and pink, but have attractive quilled centers, our admiration for them is complete. They are easily raised from seed and grow to perfection if given proper care. Do not plant in a low spot in the garden. They will not live if allowed to stand in wet soil during the winter.

June

The Month of Color

With the advent of June, our gardens become a mass of bloom. The perennials vie with each other in color and vigor, and reward us for time spent in prosaic duties of preparation.

Peony During June, the Peony is the dominating perennial for color. Strong and sturdy in appearance, with colors ranging from deepest crimson to daintiest shell pink and white, or combinations of these colors, it is one of the most satisfactory plants.

Peonies should be planted in late August. Cover the eyes from 2 to 3 inches, and space the roots 3 feet apart. They may be left in one spot from eight to ten years before transplanting. A medium heavy soil is conducive to their best development.

The Peony is subject to a bud rot, but thorough treatment will generally eradicate the disease. When the rot is present, the remark often is made that "the plants do not seem strong enough to open their buds." To prevent this disease, dig dry Bordeaux mixture into the soil about the plants before they start growth in the spring. When growth is established, spray with Bordeaux mixture every week until some time in late May.

Hollyhocks When the artist sketches a garden from his imagination he generally puts into it a mass of Hollyhocks, for they add a needed touch in furnishing a few exclamation points in a garden which might otherwise be monotonous without these points of emphasis. Try some of the pleasing double and fringed sorts. When the seed is allowed to self sow in the fall, or when sown in the early spring, they often bloom the first year.



Fig. 5.—“A song in color”—Poppies add brilliance and charm to any garden.

Poppy This month —of which the poet sings “Then, if ever, come perfect days,” — the flaming Oriental Poppies (*Papaver orientale*), flaunt their immense silken flowers, and test our ingenuity to place them properly in gardens with backgrounds of greenery so that their colors will not clash and subdue the flowers of daintier tints.

The transplanting of Poppies is best done in August, the month when they are resting and the spring crop of leaves have died to the soil. Spring or fall transplanting quite often

results in failure. Transplant Poppies about once in eight years.

Coreopsis Coreopsis is one of the perennials indispensable for the garden, because of its long season of bloom and the wealth of golden color which even one plant will make. *Coreopsis lanceolata grandiflora* is the sort most commonly grown. This flower is useful for cutting, as the stems are stiff but graceful.

Delphinium The Delphinium, with its colors as blue as the sky or as purple as a royal robe, has seen remarkable advances from year to year. Today we are not satisfied with the ordinary sorts, but search the country to buy seeds of specialists who have improved the size and form of the flowers, the combinations of their colors, and the length of the spikes. Study of their needs has resulted in being able to grow them better.

Sow the seed as soon after ripening as possible, as seed kept until spring does not germinate as readily. Fill boxes with a soil made up of equal parts of leaf mold, sand, and garden soil.

Sow the seed in rows and cover with leaf mold, peat moss, or sand. Give the seeds a constant, cool temperature for about ten to fifteen days. They are also best kept dark by inverting an empty box over the box in which the seeds are sown. Of course, as soon as the seeds have germinated they will need the light. Gradually bring them to the sunshine. Transplant them to boxes or a garden spot where you can watch them. Protect loosely for the winter.

Lately, it has been found that the cause of black gnarled spikes and distorted buds, formerly thought due to "blight," is really due to a mite. Either nicotine extract or Volck have been found effective controls. Spray when first sign appears and cut off all the severely infested branches.

For the diseases we can only advise spraying the plants in early spring with Bordeaux mixture, starting when the plants first begin their growth.

Delphiniums thrive poorly in soils needing drainage and when a stiff clay soil is the only one available, the gardener will wisely incorporate sand, peat moss, or leaf mold into it.

Bellflowers There
 is a
much admired group
of perennials with
more or less bell-
shaped flowers known
as Campanulas. The
Canterbury-bells
(*Campanula medi-*
um), are the most
popular of all (see
Fig. 6). The pink,
white, or purple flow-
ers are large, truly
bell-shaped, and are
borne in spikes.

The Peachleaf Bell-
flower (*C. persicifol-*
ia) has flowers that
are flatter than the
former species and
produced in loose,
graceful spikes.

The Canterbury-
bells and the Peach-



Fig. 6.—The *Campanula Medium* (*Calycanthema*) has a saucer-like effect on each flower which the plain Canterbury-bells do not have.

leaf Bellflower are biennials; the seed should be sown each year to raise plants which, however, will not bloom the first year.

The Carpathian Bellflower (*C. carpatica*) differs from the above varieties in that the plant is dwarf, and useful for edging beds of perennials. In fact, it may be considered one of the best of all edging perennials. The season of bloom extends through the whole summer.

The plants should be protected during the winter with autumn leaves tucked between the plants so that the leaves of the plants are not matted flat upon the soil by the heavy snows. If left unprotected, the plants generally decay at the center.

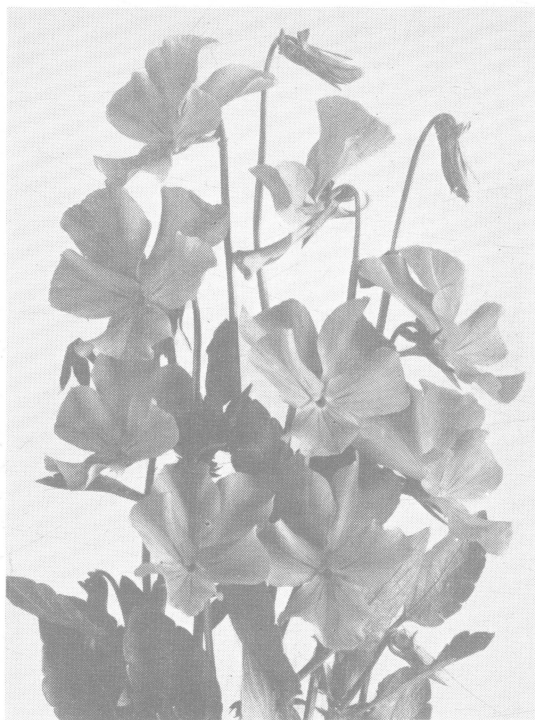


Fig. 7.—The "Jersey Gem," a popular variety of Tufted Pansy. The flowers make a dainty edging for rock gardens.

It is a matter for regret that the Tufted Pansy (*Viola cornuta*) is found so seldom in our gardens. These little edging plants are most attractive, especially the variety Jersey Gem, which is a small, tufted plant, producing lovely, long-spurred violets of an intense blue-violet shade. This is a decided improvement upon the older sort known as G. *Wermig*.

The Pansies continue in bloom all spring, most of the summer, and even up until late fall (see Fig. 7). The ama-

teur will desire to increase them by cuttings made in early September.

Foxglove The Foxglove (*Digitalis purpurea*), is a flower for all gardens. Its finger-like flowers in rosy purple, light pink, and white, with their speckled throats, delight equally the child and the adult lover of flowers. The handsome foliage extend-

ing to the soil eliminates the necessity for an edging plant in front of these stately stalks (see Fig. 8). The yellow species, *D. (grandiflora) ambigua*, is shorter in growth than the other varieties.

These plants, being biennial in nature, must be sown from seed each year to supply plants to bloom for the following year. The plants prefer the same sort of protection as for Bellflowers.



Fig. 8.—Could a beautiful border be more simple? Here are Foxgloves, Sweet Williams, and Grass Pinks, forming a harmony of color and a combination of pleasing lines.

Summer

When the Early Mornings and Evenings Are the Most Enjoyable

Plant growth is well established by midsummer, but the garden should not be neglected. Watering should be done at night or in the early morning, and should not be a mere idle diversion. The soil around each plant should be thoroughly soaked. It is better to saturate the ground twice a week than to give the plants a shower bath every day; a slight moistening of the soil coaxes the feeding roots to the surface in search of moisture, and they become dried out.

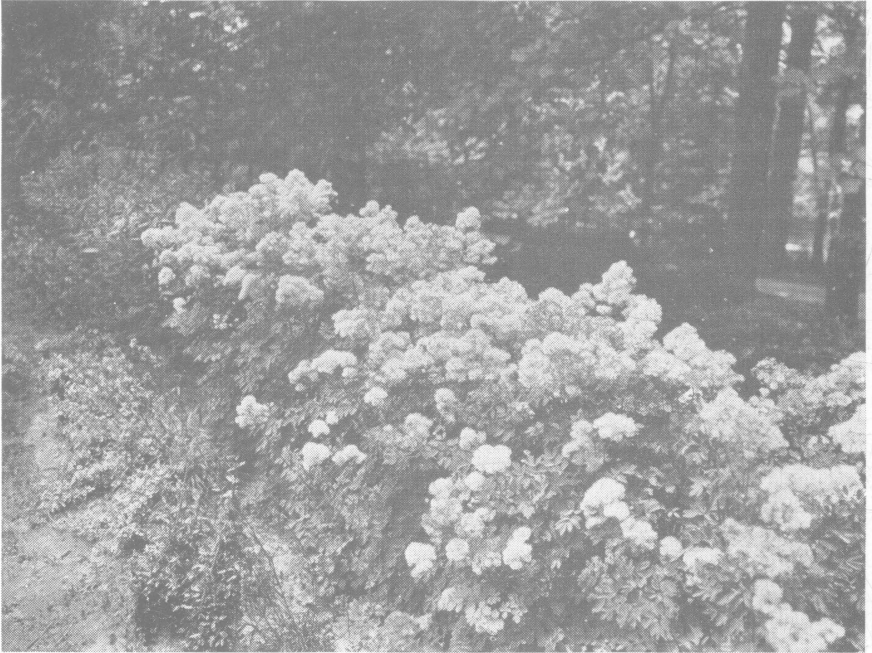


Fig. 9.—The Meadow Rue (*Thalictrum*) is excellent for either sun or shade. Its foliage is ideal for using with cut flowers.

An occasional cultivation of the surface soil will keep down weeds and will help to retain the moisture in the soil.

Hardy Phlox

The characteristic flower of summer is the Hardy Phlox. Two groups of varieties are found useful; the earlier group (*P. glaberrima suffruticosa*), has very smooth leaves. One of the most popular of this group is Miss Lingard, an appealing white variety. The later group (*P. paniculata*), has rather prominently veined leaves, and is the one to which most garden varieties belong.

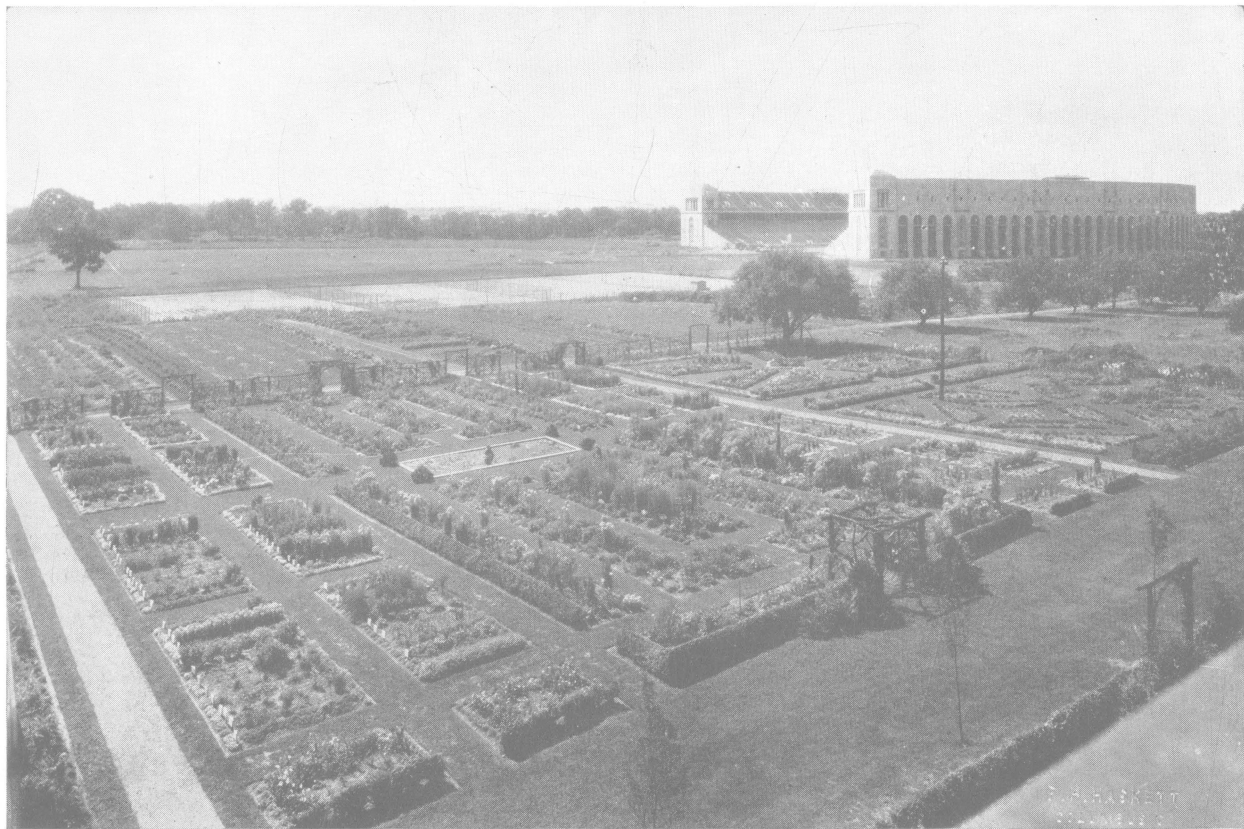


Fig. 10.—The gardens of the Department of Horticulture spread out like a gorgeous rug, the colors changing with the season. The Stadium, the tennis courts, and the vegetable gardens are also seen.

As commonly cataloged, the good whites, besides Miss Lingard, are F. G. von Lassburg, Frau Anton Buchner, and Mrs. Jenkins; white with a pink or rose-colored eye, Europa, Albion, and Bridesmaid. The reds are Coquelicot, a scarlet with deep carmine eye, and Rynstrom, a carmine violet. Elizabeth Campbell is a charming salmon pink.

Plantainlily There are many wild flowers that bloom in shaded spots in spring, but few plants of midsummer equal the various sorts of Funkias or Plantainlilies for shaded locations.

Garden lovers have admired the large white lilies of *Hosta* (*Funkia*) *plantaginea grandiflora* (see Fig. 11), but there are other



Fig. 11.—The pure white flowers of the Plantainlily always please; this arrangement, however, is too monotonous. A greater variety of plants, and curved beds, would add interest around this porch.

sorts not so often seen. Among these varieties may be mentioned *Funkia sieboldiana*, a species having deeply veined leaves which are grayish in tone, the flowers being small and lavender in color; *F. caerulea variegata*, with long narrow leaves (see Fig. 3); and *F. lancifolia undulata*, so named because of its characteristic wavy-margined foliage. The last two varieties have white and green variegated leaves. The Funkias are of interest because the foliage is beautiful right down to the soil.

Torchlily The Redhot Poker or Torchlily (*Kniphofia* or *Tritoma*), is a flame of glory from midsummer until frost. The individual flowers are tubular, and are closely packed upon long spikes 2 feet high. Generally they are orange, scarlet, or flame-colored, but yellow varieties are also obtainable. Because of their vivid coloring, these beautiful flowers should not be combined with delicately tinted perennials, but should be planted in a place by themselves, with the large foliage masses of shrubs or perennials to serve as a background.

The plants should not be left through the winter in the open soil. Dig them up in the late fall and plant them in a cold frame or a similarly protected place.

Coralbells These dainty, bell-shaped flowers (*Heuchera sanguinea*) are produced in spikes that grow to a height of from 12 to 18 inches, although the foliage is dwarf, averaging in height from 6 to 8 inches. The colors range from deep crimson to white, through coral and light pink.

False-dragonhead In large gardens where one is willing to have a huge clump of some perennial which will furnish an abundance of flowers for cutting, we suggest the False-dragonhead (Hinge-flower, or Accommodation-flower) (*Physostegia virginiana*) shown in Fig. 12. The flowers are purplish-pink or white, and are produced in long spikes. A newer and late flowered sort is known as Vivid. It is deep rose in color and is far superior to the usual False-dragonhead.

The two common names given this flower refer to an interesting characteristic of the plant. The flowers are attached to the stems as if by a swivel joint, so that they may be turned in several directions, on hinges, as it were. Wherever placed, they will remain, accommodating us.

It has been stated that the plants are apt to spread and form large clumps but the variety Vivid is not so grasping in its ways.

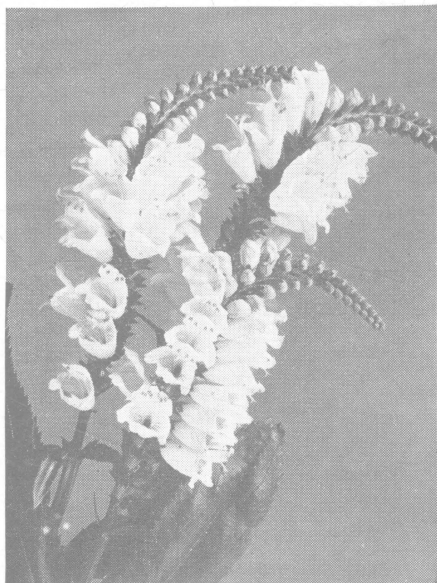


Fig. 12.—Spikes of False-dragonhead, showing the flowers and buds in their four-row arrangement.

Late summer ushers in the Sneezeweed, which is also known by the prettier name of Helensflower (*Helenium*). It is a tall plant with myriads of neat gold, maroon, and reddish - mahogany colored flowers with high golden centers (see Fig. 13). Cut and placed in vases, they cheer our living-rooms or furnish flowers for late summer or early fall.

Of the various sorts, *Helenium autumnale* and its varieties are most common, namely:

Riverton Gem, old gold changing to mahogany; Riverton Beauty, old gold, purple cone-like center; Striatum, yellow, petals striped with maroon; and Superbum, deep golden yellow. The plants should be divided every two years.

Blue flowers among the perennials are scarce during late summer. The Mistflower (*Eupatorium coelestinum*) is therefore a welcome addition to the hardy border. The clumps will give wonderful results if dug up and replanted in small divisions each year. This plant does equally well in sun or shade.

Other interesting though coarser forms of *Eupatorium* are the Joe Pyeweed and Boneset. They should be used in the shrub border. The Snakeroot (*Eupatorium urticifolium*) although poisonous to livestock, is a good white flower for shady places.

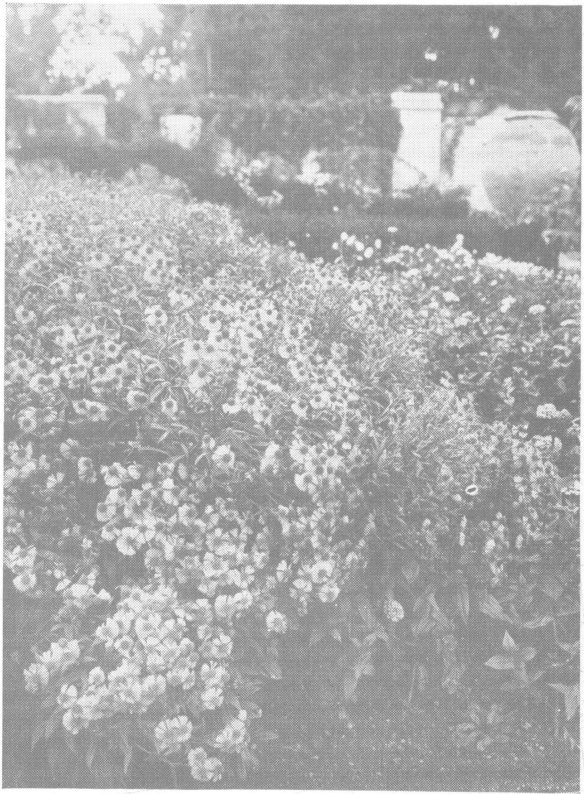


Fig. 13.—The various Sneezeweeds, with their glorious mahogany and gold flowers, are a necessity for hardy borders.

Early Fall

When the Trees Rival the Flowers in Color

In early fall, as the hot days change to cooler ones, and rains are more frequent, our gardens are masses of color if we plant them properly.

Sunflowers The various species of Perennial Sunflowers start to bloom in early fall. Many of these sorts are coarse and weedy, but we must not judge all Sunflowers by a few of the wild sorts and those too commonly seen in gardens. The Graceful or Narrow-leaved Sunflower (*Helianthus orgyalis*), is one of great beauty. The stems of the plants are clothed with long, narrow, drooping leaves and crowned by yellow, daisy-like flowers several inches in diameter. The foliage serves well as a background for shorter growing perennials.

Aster At this season the wild asters bloom along the roadsides. Everyone is familiar with one or more of our native sorts, but besides these are the cultivated and improved sorts which, if better known, would be found in all gardens.

The nurseries now carry varieties which range in height and color. Confer with them for the sorts which are best in your locality. We may mention two sorts: Climax is clear sky blue in color and grows 5 feet tall. A pink sort, St. Egwin, which forms pretty bushes covered with small, star-like flowers, is a true autumn gem. Both of these varieties reproduce rapidly, yet do not become weedy. They form such attractive clumps that your friends will wish pieces of them, and for this reason it will be difficult for you ever to get as big clumps as you desire.

Japanese Anemone At the time when the frost begins to destroy the tidiness of a garden the Japanese Anemone (*Anemone japonica*) blooms. The white or pink chalices filled with golden stamens please us and we long to have a whole garden of them, forgetting that there were other flowers which we greatly cherished in their season.

To have the Anemones at their best it is necessary to plant them in a place where they can be watered during the summer and when in bloom, but so situated that they are quite dry in winter, for during this season they will tolerate no wetness. When planting, bear in mind that they should receive the sun most of the day; however, do not set out in open places subject to the intense rays of the summer sun. When once established, do not move them frequently. Springtime is the season to buy plants.

Mugwort

A perennial which has attracted much attention in our gardens at the University during the fall is the White Mugwort (*Artemisia lactiflora*). It is related to the plants found in old-fashioned gardens known as Old Man, Bible Leaf, or the Wormwood. The plants attain a height of 5 feet, and bear greenish-white, feathery heads of fragrant bloom which add beauty to any grouping of cut flowers.

Related to this is *Artemisia Silver King*, with its gray, almost white leaves and graceful tapering stems. Both of these sorts, the first for its flowers and the latter for its leaves, are splendid for combining in baskets of flowers.

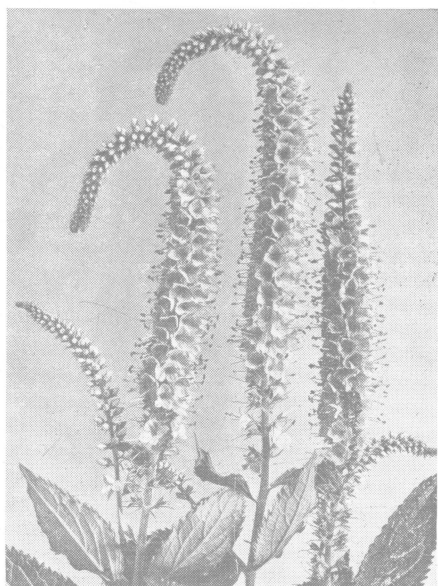


Fig. 14.—The Clump Speedwell is one of the best of the large spike roots.

Speedwell Whoever sees the Clump Speedwell (*Veronica longifolia* var. *subsessilis*), wishes to have a group of them in the garden (see Fig. 14). The long, compact spikes of blue-violet flowers upon the neat plants are pleasing. This variety is the most outstanding sort of Speedwell except the Rock Speedwell which was mentioned on page 9.

Even so, the summer blooming sorts are also useful, namely, the Woolly Speedwell (*V. incana*), an amethyst variety with gray leaves; the Spike Speedwell (*V. spicata*), a blue sort of June; and *V. virginica*, the Culvers-physic, a native white species which

is especially showy in late July and is found wild in some parts of Ohio.

Leadplant

A clear, deep Prussian blue flower for masses where a low-growing plant is desired is the Larpente Plumbago (*Ceratostigma plumbaginoides*). Few flowers are as deep or as clear a blue as this one. It will bloom through all the weeks of fall. In planting, be sure to get the roots downward, as it is difficult to distinguish the tops from the roots. This is one of the perennials which should not be transplanted in the fall and which may not be of the hardiest in poorly drained soils.

Indian Summer

The first few frosts are discouraging to us; our gardens seem doomed, the buds of many flowers are frozen, the leaves are blackened, and our spirits are subdued. We forget that Indian Summer will come — several weeks when the air is brisk, the days are sunny, and the less tender flowers resume their blooming as though frosts had never visited them.

Chrysanthemums Foremost among our perennials are the Chrysanthemums, but of them there is always a doubt whether they will bloom during Indian Summer or wait until it is too late. The old-fashioned hardy Chrysanthemums are gradually being replaced by a group known as the Early-flowered Chrysanthemums, which can be relied upon to bloom early.

Among the good varieties are included: Glory of Seven Oaks, a good yellow; L'Argentaillais, a red and yellow; Cranford's White, a lovely white; Alice Howell, a single orange sort. Among the florists' pompom Chrysanthemums that we have flowered successfully out of doors are: Lillian Doty, a dainty pink; its sister, White Doty, a good white; and Golden Climax, a deep yellow. Catalogs of specialties list many others.

Chrysanthemums are exacting in their requirements. Transplant them each year to a new spot which is well enriched with manure. Give them water during the hot season. Pinch the plants back, causing them to branch when they are only 8 inches tall. Stake them early in the season, because they will appear bundled together if neglected until the time they bloom. Spray them with a nicotine or tobacco extract if they become infested with black aphids, or plant lice.

When the buds begin to show color they may be protected through the first freeze by canvas placed over the plants. The early flowered type mentioned above cannot be depended on to endure a severe winter, and possibly plants are best purchased each spring.

If given too deep a mulch of manure or leaves the various Chrysanthemums are smothered during a mild, open winter, and if not protected they will freeze and die. Try a happy medium, and rejoice if the plants persist through the winter; or else grow the later blooming, reliably hardy sorts, which are often frozen just when they are beginning to flower.

Sunflower At the back line of the garden, or in the corner of a fence, the latest of the Hardy Sunflowers, the Maximilian Sunflower, serves a double purpose — it is a charming garden

flower, and also is in great demand for decorative purposes. The plants often grow 8 feet tall; the flowers are yellow and are produced along the stems among the leaves. Divide the plants every two years, after bloom is past. Sunflowers need a dry location for their best development.

Gaillardia It is at this season that we most admire the Blanket-flowers (*Gaillardia*) (see Fig. 15). The autumn-tinted leaves on the trees seem to be reflected in the tints of the *Gaillardias*, which have been blooming all summer but are at their best after the frost has touched them.



Fig. 15.—Masses of *Gaillardia* or Blanketflowers, enough to brighten a whole garden or to pick to the heart's content.

These hardy flowers are easy to cultivate, and their beauty, either in the garden or arranged in vases in our homes, commend them to all flower lovers.

Monkshood (*Acontium*), Japanese Anemone, Slender (Chinese) Larkspur, Hedgehog Coneflower (*Echinacea purpurea*) Mistflower (*Eupatorium coelestinum*), Plumbago, the Blue Sages, Torchlilies, and the Tufted Pansies, besides the perennials mentioned above, continue to bloom until the winter winds and cold nights put our gardens to sleep for the winter. The plants, however, should be protected, as described on page 24.

The Charm of a Rock Garden

A rock garden has an appeal which few people can withstand, yet it is easy to make and to care for. For the average amateur gardener it offers an opportunity to grow a very interesting group of plants, and for the advanced amateur and professional gardener there are unlimited possibilities in growing the many interesting but difficult and temperamental alpine plants.

The illustration shows how a small rock garden may be utilized to "tie together" and yet separate the front entrance and the garden



Fig. 16.—Rock gardens require a suitable as well as an artistic setting and background to develop their individuality and beauty.

proper. There are many spots such as this around a home that may be transformed from the prosaic to shrines of beauty. One may use a background already existing, such as a bare slope, or even a garage or barn, and with soil and a few stones build a rock garden.

A plant such as the Creeping Phlox, with its rich mass of bloom, will soon cover the rocks, and form a charming carpet from which the taller plants, such as Primulas or Coralbells, emerge. A list of rock garden plants is given on page 26.

Protect Plants Through the Winter

The garden lover, however, takes but little rest. He is now concerned with the proper method of keeping his plants throughout the winter. Experience has taught him that protection is best given after the ground is frozen and the plants are completely at rest. He has found that autumn leaves placed over his favorite perennials are soon matted tightly over them and that the leaves ferment early in spring, often injuring the plants by starting them from their sleep too early. The best way to protect the plants is first to place branches of trees or garden trash such as corn fodder, over the beds; then the leaves may safely be used, for they cannot pack down into an airtight covering.

As some one well said, "The protection for winter should be more like a parasol than an overcoat," because winter injury is caused either by alternate freezing and thawing in spring, due to no protection; or by too early growth in spring resulting from the heat generated by thick coverings of fermenting leaves. Protection is not needed to prevent freezing.

Success with Perennials

The chain of success with perennials is made up of the following links. The chain is no stronger than its weakest link. Lack of successful perennial planting will result when any one link fails.

1. Prepare the soil deeply and thoroughly. Remember that a perennial bed must remain for some years.

2. Use plenty of fertilizer. A complete fertilizer or bone meal will result in strong plants and abundant flowers.

3. Arrange the plants so that they are suited to the space allotted to them; put the tallest ones at the back, using such sorts as may be depended upon for a good foliage background.

Let some of the taller sorts extend toward the front, especially in the wider parts of the bed or border. This avoids monotony and gives interest. Provide for choice edging plants which are compact in growth.

4. Select plants which produce an abundance of bloom throughout a long season for the main stand-bys of the border. Tuck a few choice or lesser known sorts in the spaces between the dependables.

5. Choose colors with care. Avoid the close association of the various shades and tints of the different reds; combine the scarlets, oranges, and salmons together, but not near the crimsons,

magentas, and lavender-rose colors. Use white flowers to separate doubtful colors; but do not use white too abundantly.

6. Be sure to buy Bordeaux mixture in March so that you are prepared to start spraying Peonies, Phlox, Hollyhocks, and Delphiniums early. Spray the plants and the soil as soon as growth starts, and repeat every week. Use according to directions on the can in which Bordeaux mixture is purchased.

7. Have arsenate of lead and nicotine extract on hand. Use a spray or dust of arsenate of lead for all insects or caterpillars



Fig. 17.—A walk bordered by perennials adds beauty and interest to the home grounds.

which chew holes in the leaves. Use nicotine sulfate, or tobacco extract, for the various plant lice, aphids, or other sucking mouth-part insects. With the latter class it will be necessary to hit the insects with the spray.

8. Cultivate the soil between the plants so that there is a constant layer of loose soil about them. This will help to eliminate the need for watering perennials.

9. Transplant each sort when it becomes greatly crowded, or seems to be ill-adapted to the location. Most sorts can be divided into several pieces to increase the number of plants.

10. Give the plants a protection for winter (see page 24).

Lists of Perennials

Shade

Daylily, Lemon
Meadowrue
Plantainlily
Speedwell, Rock
Stonecrop

Moist situations

Buttercup, Creeping
Iris, Yellowflag
Loosestrife, Clethra
Loosestrife, Purple
Rosemallow

Evergreen

Candytuft, Evergreen
Coralbells
Flax, Perennial
Stonecrop

Rather tender to cold

(Place in cold frames for winter)

Chrysanthemum, Early
Flowering
Meadowrue, Yunnan
Sage, Mealycup
Thrift
Torchlily

Rock Gardens

Aster, Rock
Bellflower, Carpathian
Candytuft, Evergreen
Columbine
Coralbells
Forget-me-not, Alpine
Goldentuft
Phlox, Amoena
Phlox, Moss
Poppy, Iceland
Primrose
Rockcress

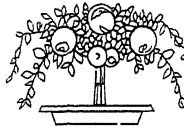
Biennials

(Best grown from seed every year)

Canterbury-bells
Foxglove
Hollyhock
Sweet William

Difficult colors to harmonize

Campion, Rose
Gayfeather, Cattail
Loosestrife, Purple
Maltese Cross
Poppy, Oriental



The Shepherd of My Garden

[GARDEN MAGAZINE, October, 1922]

The autumn wind is shepherd
Of straying garden things,
He herds the seeds together
On silken fairy wings.
He gathers leaves that flutter,
And flowers that float and fall,
Till in the sheltering fold of earth
At last he wraps them all

The autumn wind's a shepherd,
He winds a shepherd's horn.
He calls the seeds to follow him
And leaves but stalk and thorn.
And by his seeking, seeking,
For every fragile thing,
I know his care is tender care—
The flock returns with spring!

—HILDA MORRIS.

PERENNIALS FOR THE HOME FLOWER GARDEN

Botanical Name	Common Name	Height in inches	Color of Flower	Season of Bloom	Location to Plant		Soil		Remarks and Methods of Propagation
					Sun	Shade	Wet	Dry	
Achillea ptarmica.....	Pearl Milfoil.....	12-18	White	All Summer	X			X	Good cut flower. Divide plants or raise from seed.
Aconitum napellus.....	Perry White M..... Aconite, Monkshood	48	Dark blue..	June-July		X			Difficult to grow from seed. Buy plants.
(Agrostemma) coronaria....	Rose Camp'on....	24	Bright crimson	July-Sept.	X	X		X	Easily raised from seed. Gray leaves.
Alyssum saxatile compactum .	Dwarf Goldentuft..	12	Yellow	April-May	X				Its sheet of bloom is its attraction. By seed.
Anchusa italica.....	Italian Bugloss....	36-48	Deep blue....	June-July		X			Wonderful color. Difficult to eradicate. By seed or division.
Anemone japonica.....	Japanese Anemone.	24-36	Pink, white, carmine	Sept.-Oct.		Some			Excellent. Buy plants in spring.
Anthemis tinctoria.....	Yellow camomile..	24	Yellow	July-Oct.	X			X	Rather weedy but prolific of flowers. By seed.
27 Aquilegia canadensis.....	American Columbine	24	Yellow and scarlet	May-June		X		X	} Charming, useful for all gardens. Plants do not bloom first year from seed.
	chrysantha	36	Light yellow..	June		X		X	
	caerulea	24	Blue and white	June		X		X	
	vulgaris	18	Purple	June		X		X	
	vulgaris nivea.....		Munstead White						
Arabis alpina.....	Columbine	12-15	White	June		X		X	} Cut back plants after flowering. Good edging plant. Divide plants.
	Rockcress	6	White	April-May	X				
(Armeria) Statice maritima..	Thrift	6	Pink, rose, white	May-Aug.	X				
Artemisia vulgaris lactiflora..	White Mugwort....	60	Greenish white	Sept.-Oct.	X				Bold. Cut flowers.
Aster alpinus.....	Rock Aster.....	9	Purple, violet.	May-June		X		X	} Succeed anywhere and give masses of bloom. Divide often.
Climax .....	.....	60	Lavender blue	September	X	X		X	
novae-angliae	New England Aster	36-60	Purple	Sept.-Oct.	X	X		X	
St. Ewain.....	.....	30-36	Pink	Sept.-Oct.	X	X		X	
Baptisia australis.....	Wild-indigo	36-48	True blue....	June	X	X		X	Huge clumps of long spikes of pea-like flowers. Slow from seed.
Bellis perennis.....	English Daisy.....	6	Pink, white..	April-May		X			Sow seed in August.
Campanula carpatia.....	Carpathian Bellflower	8-12	Blue, white..	June-Oct.	X				Good edging plant. Sow seeds in spring.
medium	Canterbury-bells ...	24-36	Blue, purple, pink, white	June-July	X				Most popular Campanula. Biennial. Sow seeds in summer.

PERENNIALS FOR THE HOME FLOWER GARDEN—Continued

Botanical Name	Common Name	Height in inches	Color of Flower	Season of Bloom	Location to Plant		Soil		Remarks and Methods of Propagation
					Sun	Shade	Wet	Dry	
<i>Campanula persicifolia</i>	Peachleaf Bellflower	24-36	Purple, white.	June-July	X				Pleasing cut flowers. Biennial. Sow seeds in summer.
<i>Chrysanthemum</i>	Early flowering....	24-36	Various	Sept.-Nov.	X				If not hardy buy plants each year. Propagate each year.
	Hardy	24-48	.....	Oct.-Nov.	X				
<i>maximum</i>	Shasta Daisy.....	12-18	White, yellow. Center	June, Summer, Fall	X				Popular large daisy. Many varieties. Raise from seed every 2 years. Bloom same year from seed.
<i>Coreopsis lanceolata grandiflora</i>	Coreopsis	24	Yellow	June-Fall	X	X		X	
<i>Delphinium sinensis</i>	Slender Larkspur..	12-18	Violet, rosy Purple, white	June-frost	X				Do not bloom same year from seed.
Hybrid Hardy.....	Hardy Larkspur...	36-60	Violet, light blue, white	Summer	X				
<i>Dianthus barbatus</i>	Sweet-william	24	Various	May	X			X	Sow seed in spring.
<i>latifolius</i>	Double Cluster Pink	18-24	Deep crimson.	May-Oct.	X				Make cuttings. Produce little or no seed.
<i>plumarius</i>	Grass Pink.....	12	Various	May	X				Divide plants each year.
<i>Digitalis ambigua</i>	Yellow Foxglove...	24-36	Yellow	June		X			} Biennials. Sow seed in summer for next year's bloom.
<i>purpurea</i>	Foxglove	36-60	Purple, rose, white	June-July		X			
<i>Echinops ritro</i>	Globethistle	36-60	Blue	July-Sept.	X			X	} Two prickly plants of interest
<i>Eryngium maritimum</i>	Seaholly	24	Amethyst	June-Sept.	X			X	
<i>Eupatorium coelestinum</i>	Mistflower	24	Blue	Sept.-Nov.	X	X			Very persistent. Divide plants often. Good for wild places or for perennial border for late effects.
(<i>Funkia</i>) <i>Hosta coerulea</i>	Blue Plantainlily..	18-24	Violet	June-July		X			} Standard for edging or for shade. Several sorts with green and white leaves. Divide plants.
<i>plantaginea grandiflora</i> ...	Big Plantainlily....	30	White	July-Aug.		X		X	
<i>sieboldiana</i>	Cushion Plantainlily	24	Lilac	July-Aug.		X			
<i>lanceifolia</i>	Lanceleaf Plantainlily	18	Lilac	July		X			
<i>undulata</i>	Wavyleaf Plantainlily	12-18	Lilac	July		X			

PERENNIALS FOR THE HOME FLOWER GARDEN—Continued

Botanical Name	Common Name	Height in inches	Color of Flower	Season of Bloom	Location to Plant		Soil		Remarks and Methods of Propagation
					Sun	Shade	Wet	Dry	
Gaillardia aristata.....	Gaillardia	18	Crimson and yellow	Summer to Nov.	X				Raise from seed. Dainty cut flowers. Raise from seed.
Gypsophila paniculata.....	Babysbreath	36	White	July-Aug.	X			X	
Helenium autumnale.....	Sneezeweed	48	Yellow	July-Sept.	X				Good for border, also cutting. Divide plants every two years.
Helenium autumnale.....	Riverton Beauty...	48	Maroon	July-Sept.	X				
Helenium autumnale.....	Riverton Gem.....	48	Old gold.....	July-Sept.	X				
Helenium autumnale.....	Striatum	48	Yellow and mahogany	July-Sept.	X				
Helenium autumnale.....	Superbum	48	Deep yellow..	July-Sept.	X				
Helianthus maximiliani.....	Maximilian Sunfl'er	70-96	Yellow	October	X			X	Bold and tall. Easy culture. Di- vide often.
mollis		36-48	Yellow	August	X			X	
orgyalis	(Narrowleaf) Sunflower	70-96	Yellow	September	X			X	
29 Hemerocallis flava.....	Lemon Daylily....	30	Lemon	June		X		X	Popular. Successful. Divide plants.
fulva	Tawny Daylily....	36	Orange yellow	June-July		X		X	
thunbergi	Japanese Daylily..	36-48	Lemon	July-Aug.		X		X	
Heuchera sanguinea.....	Coralbells	18	Crimson, coral, white	May-July		X			A dainty gem for the garden or rockery. Raised from seed. Some of largest flowers among perennials.
Hibiscus moscheutos.....	Rosemallow	60-72	Crimson, white, pink	Aug.-Sept.		X	X		
Hollyhocks	Hollyhock	60-72	Various	June	X				Popular. Raise from seed every 2 years.
Iberis sempervirens.....	Evergreen Candytuft	12	White	April-June	X	X			Popular for pure white edging plants. Raise from seed.
Iris germanica.....	Bearded Tall.....	36-48	Various	Late May	X			X	Divide every three years.
kaempferi	Japanese Iris.....	36-48	Various	June	X				May be wet in summer but dry in winter.
chamaeiris (pumila).....	Dwarf Bearded Iris	8-10	Various ..	May	X			X	Good border plant.
pseudacorus	Yellowflag Iris....	36-48	Yellow	June	X		X		This sort and the wild Flag are the only ones for water planting.
sibirica	Siberian Iris.....	36	Violet, white..	June		X			Good for waterside planting.
Liatris pycnostachya.....	Cattail Gayfeather..	36-48	Purple	July-Aug.	X			X	Try for color. Raise from seed.
Linum perenne.....	Perennial Flax	12-18	Light blue....	May-frost	X				Evergreen leaves. Raise from seed.
Lychnis chalconica.....	Maltese Cross.....	24	Scarlet	June-Aug.	X	X			Divide plants or raise from seed.
Lysimachia clethroides.....	Clethra Loosestrife.	24	White	July-Sept.			X		Little known but handsome. Divide plants.
Lythrum salicaria.....	Purple Loosestrife..	48-60	Rosy purple..	July-Aug.		X	X	X	Good in wet places. Divide plants.

PERENNIALS FOR THE HOME FLOWER GARDEN—Continued

Botanical Name	Common Name	Height in inches	Color of Flower	Season of Bloom	Location to Plant		Soil		Remarks and Methods of Propagation
					Sun	Shade	Wet	Dry	
<i>Monarda didyma</i>	Beebalm	18-36	Crimson pale purple	June-Aug.		X	X		Divide plants in Spring.
<i>Myosotis alpestris</i>	Alpine forget-me- not	8-12	Light blue....	May-frost		X		X	} Always popular. Divide plants or sow seeds.
<i>scorpioides (palustris)</i> ..	True Forget-me-not	6-8	Light blue....	May-Aug.		X	X		
<i>Oeothera missouriensis</i>	Ozark Sundrops....	12	Light yellow..	May-Sept.		X		X	Raise from seed. Very large flower. Produce natural offsets for in- creasing plants.
<i>fruticosa youngi</i>	Young's Sundrops..	36	Gold	July		X		X	Dainty. Should be more planted. Raise from seed.
<i>Papaver nudicaule</i>	Iceland Poppy....	8-12	Yellow, orange scarlet, white	April-Fall	X	X		X	
<i>orientale</i>	Oriental Poppy....	36-48	Scarlet, salmon and others.....	May-June	X				Transplant seldom; not oftener than 8 years or from seed.
Peony	Peony	24	Various	May-June	X				Transplant seldom; not oftener than 8 or 10 years.
<i>Phlox amoena</i>	Amoena Phlox....	6	Rose	May-June		X			A beautiful dwarf gem, little seen. Buy plants.
<i>paniculata</i>	Garden Phlox.....	36	Various	July-Sept.	X				Popular. Buy plants. Divide every 3-4 years.
<i>divaricata</i>	Blue Phlox (Wild Sweet-william)	12	Lavender	May-June		X			Handsome wild flower. Transplant from woods.
<i>subulata</i>	Moss Phlox.....	6	Rose, lilac, white	May-June		X			Properly popular. Make cuttings to increase plants.
<i>suffruticosa</i>	Early Garden Phlox	24-36	Various	June-July	X				An early type of Hardy Phlox.
<i>Physostegia virginiana</i>	False Dragonhead..	36-60	Purplish pink	July-Sept.	X		X		
<i>Platycodon grandiflorum</i>	Balloonflower	12-36	Violet, white..	July-Sept.		X			Attractive balloon-like buds. Raise from seed.
(Plumbago) <i>Ceratostigma</i>									
<i>plumbaginoides</i>	Larpenite Plumbago	8-10	Deep blue....	Sept.-frost	X	X			Popular autumn blue flower.
<i>Primula polyantha</i>	Primrose, Cowslip..	8	Various	May		X			Divide plants in summer. Seeds grow poorly often.

PERENNIALS FOR THE HOME FLOWER GARDEN—Continued

Botanical Name	Common Name	Height in inches	Color of Flower	Season of Bloom	Location to Plant		Soil		Remarks and Methods of Propagation
					Sun	Shade	Wet	Dry	
(Pyrethrum) <i>Chrysanthemum coccineum</i>	Painted Lady.....	12-24	Crimson, pink, white, purple	May-June	X				Popular. Raised from seed. Purchase plants for best sorts.
<i>Ranunculus repens</i>	Creeping Buttercup.....	6-8	Yellow	May	X	X	X		Spreads rapidly. Easily divided.
<i>Rudbeckia maxima</i>	Great Coneflower..	48-60	Yellow, deep Maroon center	Aug.-Sept.	X				A strange sort, worthy of using for specimen.
<i>speciosa newmanni</i>	Showy Coneflower..	24	Deep yellow, dark center	September	X				Generally popular. Raise from seed.
<i>Salvia azurea grandiflora</i>	Great Azure Sage..	36-60	Light blue....	Sept.-Oct.	X				Too leggy and tall. Too few flowers but good color.
<i>Salvia farinacea</i>	Mealycup Sage.....	36-60	Light blue....	Sept.-Oct.	X				Not perfectly hardy but more attractive than former species.
<i>Scabiosa caucasica</i>	Caucasian Scabiosa	20-30	Light blue, white	June-Sept.	X				Entirely pleasing color. Raise from seed carefully. Get House s Hybrids.
<i>Sedum various</i>	Stonecrop	2-12	Pink, yellow, crimson, white	Various	X	X		X	Place for some sorts in every garden. Purchase plants.
(Statice) <i>Limonium latifolium</i>	Bigleaf Sea-lavender	18	Violet	Fall	X			X	A pleasing everlasting. Raise from seed. Bloom second year.
<i>Thalictrum 'aquilegifolium</i>	Columbine Meadowrue	24-36	Yellow	June-July		X			Graceful. Worthy of being better known.
<i>diptercarpum</i>	Yunnan Meadowrue	36-48	Lavender	Aug.-Oct.	X				Transplant to cold frame for winter
(Tritoma) <i>Kniphofia pfitzeri</i> .	Torchlily	24	Bright flame scarlet, yellow	Summer and Fall	X				Transplant to cold frame for winter
<i>Veronica incana</i>	Woolly Speedwell...	12	Rosy purple..	July-Aug.	X				Gray leaves. Raise from slips or divide.
<i>longifolia var. subsessilis</i>	Clump Speedwell...	18-24	Purple violet..	September	X				Must not be raised from seed. Buy plants.
<i>spicata</i>	Spike Speedwell....	18	Violet	June-July	X				Raise from seed.
<i>teucrium var. rupestris</i> .	Rock Speedwell.....	2	Blue violet....	May-June	X	X		X	Divide plants. A very handsome ground cover.
<i>virginica</i>	Culvers-physic	36-60	White	September	X			X	Wild. Interesting. Divide plants.
<i>Viola cornuta</i>	Tufted Pansy.....	6-8	Violet, purple, white	April-frost		X			Raise from seed. Excellent for long season of bloom.

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OF AGRICULTURE



AGRICULTURAL EXTENSION SERVICE
H. C. Ramsower, Director
Columbus, Ohio

FREE—Cooperative Agricultural Extension
Work—Acts of May 8 and June 30, 1914

Printed by
THE OHIO STATE UNIVERSITY PRESS
Columbus, Ohio